

Stubblebine 109755con-1

IN THE CLAIMS:

52. (Original) A method for system security in distributed systems, comprising the steps of:

a) deriving freshness constraints from initial policy assumptions and an authentic statement;

b) imposing freshness constraints by employing recent-secure authenticating principals to effect revocation; and

c) verifying that a relation  $f |t_{now} - t_{time\ stamp}| \leq \delta$  is satisfied for verification of a secure channel, where  $t_{time\ stamp}$  being a time of a time stamp pertaining to a validity assertion of a particular assertion,  $\delta$  being a minimum necessary freshness constraint pertaining to the particular assertion and  $t_{now}$  being the time of verification;

53. (Currently Amended) A system for enforcing revocation in distributed systems, comprising:

a) means for ~~asserting~~ creating a time-stamped validity assertion message pertaining to the validity of an initial assertion;

b) means for asserting a freshness constraint[[s]] indicating a length of time, and relating to said initial assertion the initial assertions that the freshness constraints relate to; and

c) means for verifying that a relation  $|t_{now} - t_{time\ stamp}| \leq \delta$  is satisfied ~~for each particular assertion necessary for verification of a secure channel~~, where  $t_{time\ stamp}$  is a time of a time stamp contained in said message pertaining to the validity assertion of a particular assertion,  $\delta$  being is a selected constant that represents a minimum necessary freshness constraint pertaining to said initial assertion the particular assertion, and  $t_{now}$  is being the time of verification.

54. (Currently Amended) A system for protecting an authority of a distinguished principal and enforcing revocation when the authority is compromised, comprising:

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- a) a first means-for issuing an authoritative assertion by a distinguished principal;
- b) a second means for asserting freshness constraints on the assertion;
- c) a third means for asserting a time stamped validity assertion to the assertion indicating the validity of the assertion at the time of the time stamp; and
- d) means for verifying that a relation  $|t_{now} - t_{time\ stamp}| \leq \delta$  is satisfied for each particular assertion necessary for verification of a secure channel, where  $t_{time\ stamp}$  being the time of a time stamp pertaining to the validity assertion of the particular assertion,  $\delta$  being the minimum necessary freshness constraint pertaining to the particular assertion, and  $t_{now}$  being the time of verification.

55. (Original) A system for issuing certificates in a system for enforcing revocation in distributed systems, comprising:

- a) means for issuing certificates for principals within an organization by the organization;
- b) means for asserting, by the organization, a principal authorized as an authority for issuing time stamped certificates;
- c) means for delegating authority for issuing time stamped certificates;
- d) means for asserting freshness constraints on assertions; and
- e) means for verifying that a relation  $|t_{now} - t_{time\ stamp}| \leq \delta$  is satisfied for each particular assertion necessary for verification of a secure channel, where  $t_{time\ stamp}$  being a time of a time stamp pertaining to the validity assertion of a particular assertion,  $\delta$  being a minimum necessary freshness constraint pertaining to the particular assertion and  $t_{now}$  being the time of verification.

56. (Original) A system for system security in a distributed system network, comprising:

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a) means for preparing a statement of an assigned revocation authority in a distributed system network in response to a policy, said revocation authority statement being associated with an initial statement;

b) means for preparing a statement of a freshness constraint period in the distributed system network in response to said policy, said freshness statement being associated with said revocation authority statement;

c) means for preparing a validity statement at said assigned revocation authority in the distributed system network in response to said policy, said validity statement including a verification status at some temporal reference;

d) means for providing said revocation authority statement, said freshness statement, and said validity statement to a verification authority in the distributed system network; and

e) means for selectively verifying said initial statement at said verification authority in response to said initial statement, said revocation authority statement, said freshness statement, and said validity statement.